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## ABSTRACT

In 1968, 107 members of the AAHPER Council on Outdoor Education and Camping were surveyed to determine their attitudes toward the meaning of the term "outdoor education". Using the same rating sheet, this survey determined the Council members' present attitudes. An influence questionnaire was also designed to investigate the influence of people, places and events on the 1975 attitudes. A rating sheet and an influence questionnaire were mailed to 100 of the 107 members; 71 were returned. The raw data of the rating sheet was submitted to two factor analytic programs. Twenty-five significant factors which were statistically insignificant were identified. Since the 1968 population had only three factors, it was concluded that there seemed to have been an influence exerted upon the population causing the attitudes to change significantly enough so as to negate the validity of the rating sheet. Kendall's coefficient of concordance was used on the raw data from the influence questionnaire. It was found that the respondents did not significantly agree on influences upon their attitudes. Based on sex, faculty status and council membership, the respondents were divided into three sets of mutually exclusive subgroups. None of the six coefficients were statistically significant indicating that the influences upon the attitudes were very diversified. Results of both instruments supported each other. From the data, it was not possible to distinguish what the population discerned as the meaning of "outdoor education". (Author/NQ)

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GEORGE WILLIAMS COLLEGE

COMPARATIVE STUDY OF ATTITUDES TOWARD THE MEANING OF THE  
TERM "OUTDOOR EDUCATION" AS VIEWED BY SELECTED MEMBERS  
OF THE AMERICAN ASSOCIATION OF HEALTH, PHYSICAL  
EDUCATION AND RECREATION'S COUNCIL ON  
OUTDOOR EDUCATION AND CAMPING IN  
1968 AND 1975

A RESEARCH PROJECT SUBMITTED TO  
THE GRADUATE SCHOOL  
IN CANDIDACY FOR THE DEGREE  
MASTER OF SCIENCE IN  
LEISURE AND ENVIRONMENTAL RESOURCES  
ADMINISTRATION

BY  
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## ABSTRACT

In 1968, B. Ray Horn surveyed selected members of the AAHPER Council on Outdoor Education and Camping in order to determine their attitudes toward the meaning of the term "outdoor education." Using Horn's instrument, the rating sheet, the researcher duplicated the survey in order to determine the present attitudes of the Council members. Beyond a duplication of the 1968 study, the researcher designed and used the influence questionnaire to investigate the influence of people, places and events on the 1975 attitudes.

Upon submitting the raw data of the rating sheet to a specific factor analytic program called QUANAL, ten factors, all with eigenvalues greater than one, were distinguished. Because the data went beyond the limits of the QUANAL program, another factor analytic program, written in SPSS, was used. This program identified twenty-five significant factors which was statistically insignificant. Because the population was known to have only three factors in 1968, the researcher concluded that there seemed to have been an influence exerted upon the population causing the attitudes to change significantly enough so as to negate the validity of the rating sheet for this population.

Using Kendall's coefficient of concordance, the raw data from all the respondents' influence questionnaires gave a

coefficient of .202. This enabled the researcher to state that the respondents did not significantly agree on influences upon their attitudes. Based on sex, faculty status and council membership, the respondents were divided into three sets of mutually exclusive subgroups. The raw data from each of the six subgroups were used to compute a Kendall coefficient of concordance. None of the six coefficients were statistically significant indicating that the influences upon the respondents attitudes were very diversified. A total of seventy-three different write-in influences was noted by the researcher.

The results of the rating sheet and the influence questionnaire seemed to support each other. In the opinion of the researcher, the diversified influences, as seen with the Kendall analysis and the write-in responses, seemed to cause many interpretations of the term "outdoor education." It is also the opinion of the researcher that if many people hold different philosophies of "outdoor education," it would seem that a variety of influences have affected the population."

From both the rating sheet and influence questionnaire data, the researcher was not able to distinguish what the population discerned as the meaning of "outdoor education." It seemed as if the term "outdoor education" had lost all meaningful definition, and that this loss of definition could possibly apply to all professional attitudes in the field.



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## CHAPTER I

### INTRODUCTION

A standard definition of the term "outdoor education" has never been established. This has led to an ever-changing understanding of the term. As a result, a variety of understandings and a myriad of programs all exist under the title "outdoor education."

In order to clearly comprehend the parameters of the profession, it is important for an outdoor educator to be aware of how other professionals view the field. Such a study was made in 1968<sup>1</sup> but, because some attitudes may have changed, the study may have lost its relevance. As a potential outdoor educator, the researcher was interested in investigating whether the attitudes toward the meaning of the term "outdoor education" have changed between 1968 and 1975. This information would also be of value to professionals in the field by providing an opportunity for them to recognize the present attitudes towards the meaning of the term "outdoor education."

#### Statement of the Problem

In 1968, B. Ray Horn surveyed selected members of the

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<sup>1</sup>B. Ray Horn, "Factor Analysis of Attitudes Toward the Term 'Outdoor Education' As Given by the Members of the AAHPER Council on Outdoor Education and Camping" (Master thesis, Southern Illinois University, 1968), p. 15.

American Association of Health, Physical Education and Recreation<sup>2</sup> Council on Outdoor Education and Camping<sup>3</sup> in order to determine their attitudes toward the meaning of the term "outdoor education." By duplicating the survey, the researcher proposed to determine the present attitudes of the Council members. If a difference between the 1968 and 1975 attitudes was revealed, it was within the scope of the problem to discuss the discrepancies.

Beyond a duplication of the 1968 study, the researcher proposed to investigate the influences of people, places and events on the 1975 attitudes.

### Hypotheses

The hypotheses were stated in the null.

Members of the AAHPER Council have the same attitudes toward the meaning of the term "outdoor education" in 1968 and 1975.

Respondents of each attitude type demonstrate agreement among items influencing their 1975 attitude.

### Definition of Terms

Agreement--Agreement is operationally defined as a significant Kendall coefficient of concordance.

Attitude--An attitude is the position of a respondent in relation to the meaning of the term "outdoor education."

Attitude Type--An attitude type is a specific attitude

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<sup>2</sup>Hereafter referred to as AAHPER.

<sup>3</sup>Hereafter referred to as Council.



exhibited by a group of respondents.

Council on Outdoor Education and Camping--The Council is a general division of AAHPER. Its purpose is to "promote the development of philosophy, policy, standards and terminology and the improvement of programs, materials and methods in areas of concern of the Council."<sup>4</sup> Regardless of their specific interests, the members are enthusiastic about the out-of-doors.<sup>5</sup> They are also in agreement that "man and nature are inseparable and that the future of our nation is coupled to our ability to resolve our problems [conservation of natural resources]."<sup>6</sup>

Difference--A difference is determined by meeting either of the following criteria:

1. The attitude types identified are not identical with the 1968 types.
2. The three attitude types identified are identical to the 1968 types but with less than ninety percent of the respondents being placed in the same type according to their 1968 and 1975 responses.

Influence Questionnaire--The influence questionnaire is the survey instrument designed by the researcher to examine the items influencing the attitude of a respondent toward the meaning of the term "outdoor education."

Item--An item is a person, place or event, as stated in the influence questionnaire, which may have had an influence on a respondent's attitude.

Rating Sheet--The rating sheet is the survey questionnaire

<sup>4</sup>Charles L. Mand, "The Council on Outdoor Education and Camping," *Journal of Outdoor Education* 1 (Fall 1966); 11.

<sup>5</sup>Ibid.; p. 10.

<sup>6</sup>Ibid.

constructed and used by B. Ray Horn in 1968 to determine attitudes toward the meaning of the term "outdoor education."<sup>7</sup>

#### Limitations

The study was limited to the 107 members of the Council whose responses were used in the 1968 research.

There was no control over outside variables that may have influenced the responses between the time the questionnaire was mailed to the respondents and the time it was returned to the researcher.

#### Assumptions

The first assumption was that attitudes of the Council members have been influenced by people, places and events experienced within the past seven years.

The second assumption was that each member of the population had had some formal training in research because, in 1967, all respondents were either faculty members or advanced degree candidates in colleges and universities. The research training of the respondents created a greater interest in the study and therefore a higher percent of questionnaire return.<sup>8</sup>

The third assumption was that the rating sheet gave an accurate view of an individual's conception of the term "outdoor education."

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<sup>7</sup>B. Ray Horn, "Rating Sheet," Outdoor Education Center, Carbondale, Illinois, 1968. (Photocopy.)

<sup>8</sup>B. Ray Horn, "Factor Analysis by Council Members," p. 15.

### Importance of the Study

There is much confusion over the definition of the term "outdoor education." Early in the history of "outdoor education," the term was considered synonymous with school camping. Even today, some writers define "outdoor education" synonymously with other terms. Lewis considered conservation education the same as "outdoor education."<sup>9</sup> Oxford and Walser both referred to professionals who viewed outdoor education as equivalent to conservation education and environmental education.<sup>10</sup> Schoenfeld equated "outdoor education" with environmental education, conservation education, resource education and environmental management education.<sup>11</sup>

Because of the confusion over terminology, each author usually gives a definition of outdoor education at the beginning of a publication. This insures the author that the reader understands the frame of reference within which the article is written. The confusing terminology has become particularly evident with the nationwide rise of environmental education, marked by the Federal Environmental Education Act of 1970.

It is important to maintain a unique definition for the

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<sup>9</sup>Charles A. Lewis, Jr., "Factors Influencing the Development of Outdoor Education" (Ph.D. dissertation, New York University, 1968), pp. 197-111, 248.

<sup>10</sup>Gale B. Oxford, A Study of Outdoor Education and Its Objectives as a Basis for Determining Current Trends (Arlington, Virginia: ERIC Document Reproduction Service, ED 082 893, 1973), p. 11; Wesley Max Walser, "Environmental Education, Kindergarten Through Grade Twelve: A Resource Guide for Teachers" (Ph.D. dissertation, Duke University, 1973), p. 25.

<sup>11</sup>Clay Schoenfeld, ed., Outlines of Environmental Education (Madison, Wisconsin: Dembar Educational Research Services, 1971), p. 65.

term "outdoor education" in order to keep the emphasis separate and distinct from other programs.<sup>12</sup> In face of pressure to combine definitions, George Eley of the University of Maryland believed that outdoor education programs, if they were to receive any financial aid, would have to have used the term "environmental" somewhere in their title.<sup>13</sup> This was because the Environmental Education Act had set aside funds for "environmental" education programs.

Following the ideas of Eley, Crocicchia stated that outdoor education could have been improved and strengthened by forming an identity of definitions with environmental education.<sup>14</sup> In May 1974, outdoor educators were challenged to re-examine the goals, objectives and practices of "outdoor education" in order to meet the environmental needs of the 70's.<sup>15</sup> This re-examination may have had an influence on attitudes towards the meaning of the term "outdoor education."

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<sup>12</sup>George W. Donaldson, A Position Paper: Research Utilization in Outdoor Education (Arlington, Virginia: ERIC Document Reproduction Service, ED 042 554, 1970), pp. 3-4; George W. Donaldson and Alan D. Donaldson, "Outdoor Education and Its Promising Future," Journal of Health, Physical Education and Recreation 43 (April 1972): 26; Clinton Neal Fitzpatrick, "Philosophy and Goals for Outdoor Education" (Ph.D. dissertation, Colorado State College, 1968), p. 50.

<sup>13</sup>Interview with Dr. George Eley, Professor of Education, University of Maryland, 29 March 1971, quoted in George A. Crocicchia, "Outdoor Education: A Descriptive Survey of Programs and Trends for Elementary Schools in the State of Maryland" (Ph.D. dissertation, George Washington University, 1971), p. 43.

<sup>14</sup>Ibid., p. 58.

<sup>15</sup>Robert L. Vogl and Sonia Vogl, Outdoor Education and Its Contributions to Environmental Quality (Las Cruces, New Mexico: ERIC/CRESS Document Reproduction Service, ED 091 095, (1974), p. 56.



A few professionals still believed in "outdoor education" as a separate program and that it should maintain a unique definition. Donaldson and Donaldson saw the challenge of keeping a unique identity for "outdoor education" as an opposition to a band wagon effect caused by the entry of state and federal governments into environmental education.<sup>16</sup>

In summary, many professionals in the field are still searching for a unique definition for the term "outdoor education."<sup>17</sup> "While a definition that is too precise might limit rather than facilitate desirable practices, there are needs for studies in the areas which would be primarily philosophical in nature."<sup>18</sup> This philosophical delineation would help establish criteria to determine which programs should be included under the term "outdoor education."

#### Population Characteristics

The population was composed of past or present members of the Council who were considered in the analysis of the original survey of B. Ray Horn in 1968.

All members of the population were associated as faculty or advanced degree candidates with a college or university in 1967. In 1975, from the researcher's population of seventy-one,

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<sup>16</sup>Donaldson and Donaldson, "Outdoor Education and Its Promising Future," p. 16.

<sup>17</sup>Stuart Langton, "Justifying Proposals in Outdoor Education," Journal of Outdoor Education 4 (Winter 1970): 9; George W. Donaldson and Oswald Goering, Outdoor Education: A Synthesis (Arlington, Virginia: ERIC Document Reproduction Service, ED 037 186, n.d.); George W. Donaldson, A Position Paper, pp. 3-4.

<sup>18</sup>George W. Donaldson, A Position Paper, pp. 3-4.



83.1 percent (59) still retained a position with a college or university. This 83.1 percent subdivided into 69.0 percent (49) working at the same institution as in 1968, and 14.1 percent (10) being associated with a different college or university. Those who have retired equaled 12.7 percent (9). The remaining 4.2 percent (3) were still employed but at a job outside of a college or university. One individual was an elementary physical education instructor; another was a high school assistant principal; the third was an executive director of a girl scout council.

Because of the association of the population with the Council, all members have previously been exposed to the term "outdoor education" and presumably have their own conceptual meaning of the phrase.

## CHAPTER II

Most literature dealing with the meaning of the term "outdoor education" did not include formal research. The authors stated their own definitions based on their personal experience and understanding of "outdoor education."

At least four formal research papers have dealt with the meaning of the term "outdoor education." The first was completed in 1955.<sup>19</sup> Rogers first located all written or assumed definitions of "outdoor education" and compared them for similarities and differences. Eliminating all duplications, he stated the following definition.

Outdoor education is a method of approaching educational objectives through guided, direct, real-life experiences, in the out-of-doors, utilizing as learning material the resources of the natural environment.<sup>20</sup>

Following this, Rogers sought to determine whether this definition of "outdoor education" allowed the field to be accepted as part of the scope of general education. Rogers also investigated whether the definition was applicable to current "outdoor education" experiences. Before accepting the above definition

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<sup>19</sup>Martin Rogers, "Principles and Functions of Outdoor Education" (Ph.D. dissertation, Syracuse University, 1955), pp. 22-23.

<sup>20</sup>Ibid., p. 39.

a panel of nine judges, considered experts in the field, studied the definition and, with one minor exception, unanimously agrees with it.

In 1968, Chase<sup>21</sup> and Horn<sup>22</sup> each did an investigation. One part of the study conducted by Chase determined how well teachers understood the term "outdoor education." The inventory required the teachers to designate what activities were part of "outdoor education." The remainder of the inventory dealt with opinions, objectives, impressions and attitudes toward "outdoor education." Results of this study were used to design new "outdoor education" programs and to evaluate programs in terms of change of attitude of participants toward "outdoor education."

Developing his own questionnaire, the "Rating Sheet," Horn gathered data on attitudes toward the meaning of the term "outdoor education." The population was the 1967 members of the AAHPER Council who were associated with colleges or universities. Using Q methodology, a special type of factor analysis, three groups of partially overlapping attitudes were revealed.

1. Environment-Oriented Group: The members of this group . . . tended to view the use of the outdoors as a learning medium, as a vehicle of communications. At the time, however, they did not want to exclude activities related to conservation education. This group coalesced those who were apparently interested in the instructional implications of outdoor education and regarded the outdoors as an educational tool.

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<sup>21</sup>Craig Chase, Development and Use of the Chase Outdoor Education Inventory (Arlington, Virginia: ERIC Document Reproduction Service, ED 038 231, 1968).

<sup>22</sup>Horn, "Factor Analysis by Council Members."

2. Conservation-Oriented Group: The members of this group were generally conservation-oriented; that is, they felt that "outdoor education" encompassed those activities that focus upon conservational ends. The group coalesced those who had partial interests in groups I and III, but who clustered into a discernibly different group with predominantly wildlife, natural science, and conservation education interests.

3. Outdoor Activity-Orient Group: This group was oriented toward the physical location of where an activity is conducted and felt that an interaction with a natural environment was not a necessary condition of "outdoor education." This was the most distinctive group. They were mainly physical education and recreation-education oriented and were primarily interested in activities conducted in an outdoor setting and education for outdoor recreation.<sup>23</sup>

Horn's study was a landmark in research on the term "outdoor education" and his groupings have since been referred to by other writers.<sup>24</sup>

The latest study was conducted in 1973 by Oxford.<sup>25</sup> Similarities and differences in the terms "outdoor education," "environmental education," and "conservation education" were discovered by examining definitions found in literature. Oxford described two extreme opinions but recognized that few definitions actually fell into either of the polarized categories. Oxford did not believe that the three categories described by Horn adequately characterized "outdoor education."

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<sup>23</sup>B. Ray Horn, "A Factor Analysis of Attitudes Toward the Term 'Outdoor Education'," Journal of Outdoor Education 4 (Fall 1969): 15.

<sup>24</sup>Langton, "Justifying Proposals," p. 9; "Come on You Guys," Journal of Outdoor Education 4 (Winter 1970): 12; and Donaldson and Goering, Outdoor Education, p. 2.

<sup>25</sup>Oxford, A Study of Outdoor Education, p. 4.

- This study found few definitions falling in the outdoor activity-oriented group. Other writers in the field have disagreed with Oxford by considering attitudes falling within the realm of the outdoor activity-oriented group an integral part of the meaning of the term "outdoor education."<sup>26</sup>

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<sup>26</sup>"Outdoor Education-As We See It," Journal of Health, Physical Education and Recreation 44 (June 1973): 41; Lewis, "Factors Influencing Outdoor Education," pp. 205, 212-213, 248-250; Julian W. Smith, Outdoor Education in Michigan Schools (Arlington, Virginia: ERIC Document Reproduction Service, ED 041 648, 1970), pp. 4-5; Julian W. Smith, "A Decade of Progress in Outdoor Education," Journal of Outdoor Education 1 (Fall 1966): 3; and Julian W. Smith, Outdoor Education: An Overview (Las Cruces, New Mexico: ERIC/CRESS Document Reproduction Service, ED 034 631, 1969), p. 2.



## CHAPTER III

### DESIGN OF THE STUDY

The present study was a follow-up to a study entitled "A Factor Analysis of Attitudes Toward the Term 'Outdoor Education' as Given by Members of the American Association of Health, Physical Education and Recreation Council on Outdoor Education and Camping." The study mentioned was conducted by B. Ray Horn in 1968.

#### Data Collection

The data were collected using two separate instruments. The rating sheet (see appendix A), developed by Horn<sup>27</sup> was used to obtain attitudes towards the meaning of the term "outdoor education." The influence questionnaire, (see appendix B), developed by the researcher, was employed to gather information for the purpose of discovering the item or items that a respondent felt had influenced his/her attitude.

#### Rating Sheet

The rating sheet consisted of forty-eight statements covering four broad categories of definition.

1. Those definitions that directly related outdoor education to recreation and/or physical education.

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<sup>27</sup>Horn, "Factor Analysis by Council Members," p. 15.

2. Those definitions that synonymously equated outdoor education with other terms.

3. Those definitions that directly related outdoor education to specific areas of the school curricula, that indicated the physical location of the learner and that specified an attribute of the object observed by the learner.

4. Those definitions that placed broad significance on outdoor education, that contrasted the interpretations of "outside" or that contrasted "outside" to "inside."<sup>28</sup>

Respondents were requested to answer each statement by indicating the extent to which they agreed or disagreed on an equal-interval, semantic valued, seven point Likert scale. The strongest agreement value was seven. The strongest disagreement value was one.

The reliability of the rating sheet was maximized by using the following measures.

1. The items were made as unambiguous as possible, submitted to many pre-tests and scrutinized by a jury of communication experts at Southern Illinois University.

2. Statements covering the same materials were repeated in different words.

3. The instrument was repeatedly given to a number of individuals over a period of days and/or weeks.<sup>29</sup>

The instrument's construct validity was established through use of two pre-tests and an exploratory study. The results of all three surveys gave predicted results for the selected homogeneous populations used in the studies.

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<sup>28</sup>B. Ray Horn, "Rating Sheet," Outdoor Education Center, Southern Illinois University, Carbondale, Illinois, 1968.

<sup>29</sup>Horn, "Factor Analysis by Council Members," pp. 16-17, 20.

Horn considered the instrument both valid and reliable for his purpose.<sup>30</sup> Since the purpose of the researcher, in using the instrument, was the same as the original study, the instrument was considered to be reliable and valid for the present study.

### Influence Questionnaire

The influence questionnaire consisted of a list of sixteen items which, in the past seven years, may have influenced the attitude of a respondent toward the meaning of the term "outdoor education." These sixteen items were assembled by the researcher in consultation with the faculty of the Department of Leisure and Environmental Resources Administration of George Williams College. Content validity was established by securing agreement among the faculty members. The resulting sixteen items were believed to be items that could influence the attitude of a respondent.

Each respondent was requested to rank the sixteen items according to the strength of their influence. A rank of one indicated the item of greatest influence; a rank of sixteen indicated the item of least influence. Items, outside of those listed, may have been recognized by the individual respondents. Blank lines were located at the bottom of the influence questionnaire to allow for these additional items and their respective strengths of influence.

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<sup>30</sup>Ibid., pp. 25-26.

### Questionnaire Administration

In order to obtain the present population, the researcher contacted B. Ray Horn for a list of those individuals who responded to his 1968 study. Out of 107 responses that Horn used, the researcher began with 106 because one response was anonymous. An anonymous response could not be used in a comparative study.

The 106 names and addresses were checked for accuracy. The following resources were used to update the listing.

1. The AAHPER Council headquarters were requested to update the addresses.

2. The researcher checked the mailing list of the Journal of Outdoor Education located at the Lorado Taft Field Campus, Oregon, Illinois.

3. With the help of Dr. Malcolm Swan, the researcher checked the address list of the, soon to be published, Leaders in Outdoor Education, second edition.

4. A list of attendants at the September 1974 National Outdoor Education conference was obtained.

5. The 1975 National Faculty Directory was consulted.

6. Phone calls were made by the researcher to the college or university an individual was associates with in 1968.

Using all of the above resources, the researcher verified 100 current addresses. The other six members of the population were known to be deceased.

On May 12, 1975, a rating sheet, an influence questionnaire, a stamped return envelope, and a letter (see appendix C) were sent to each of the one hundred members of the population. Between May 12, 1975, and June 1, 1975, fifty-one responses were received. During this time five packets were returned to the researcher with addressees unknown. The

researcher was able to update four of the five addresses.

A second mailing was sent on June 3, 1975, to the forty-eight individuals who had not yet replied. This mailing was a replication of the first with the addition of a second letter (see appendix C). The second mailing produced twenty-four returns. The total number of returns was seventy-five. Four were not usable. One was anonymous; one was not completed by the specified person; and two were incomplete, therefore incapable of being machine analyzed. The total number of usable returns was seventy-one or 71 percent of the population.

Because the percentage of return was less than 80 percent, there was a danger of biased results.<sup>31</sup> In order to distinguish if this bias existed, the researcher compared the respondents and non-respondents on the available information of whether the individuals were: (1) male or female, (2) still members of the AAHPER Council, and (3) still faculty members at the college and university level. Table 1 demonstrates the number of individuals in each category.

The chi-squared technique allowed for the multivariate comparison of the above mentioned groups. As shown in table 2, the two groups were not significantly different in any of the three categories. Based on this information, the researcher concluded that the data received was not biased and would therefore give a statistically clear interpretation of the total population.

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<sup>31</sup>C. A. Moser and G. Kalton, Survey Methods in Social Investigation, 2nd ed. (New York: Basic Books, Inc., 1972), p. 173.



TABLE 1

POPULATION CATEGORIZED BY SEX, FACULTY  
STATUS AND COUNCIL MEMBERSHIP

	Respondents	Non-respondents
<u>Sex</u>		
Male . . . . .	48	17
Female . . . . .	23	12
<u>Council membership</u>		
Still member . . . . .	47	22
Not a member . . . . .	24	7
<u>Faculty status</u>		
Still faculty. . . . .	58	20
Not faculty. . . . .	13	9

TABLE 2

CHI-SQUARED COMPARISON OF RESPONDENTS  
WITH NON-RESPONDENTS

Category	Chi-squared value
Sex . . . . .	.731
Council membership. . . . .	.900
Faculty status. . . . .	1.943

### Data Analysis

#### Rating Sheet

The data from the seventy-one rating sheets were analyzed by factor analysis, the final stage of Q-methodology.

Factor analysis was the most appropriate technique because:

Factor analysis is a method for determining the number and nature of the underlying variables among larger numbers of measures. More succinctly, it is a method for determining k underlying variables (factors) from n sets of measure, k being less than n.<sup>32</sup>

<sup>32</sup>Fred N. Kerlinger, Foundations of Behavioral Research, 2nd ed. (Chicago: Holt, Rinehart and Winston, 1973), p. 659.

Each factor was a hypothetical entity discovered by a group of variables having certain common characteristics. The number of factors extracted was determined by use of Kaiser's criterion. The rule upon which this method lies is that "only" the factors having latent roots [eigenvalues] greater than one are considered as common factors."<sup>33</sup>

The specific program employed was Q Analysis (QUANAL). This program was also used by Horn in his 1968 study. QUANAL was designed in 1967 by N. Van Tubergen of the University of Iowa School of Journalism.

This program provides a single-execution method for handling all phases of Stephenson's Q Analysis.<sup>34</sup> It is a multiphase program which allows data manipulation, correlation, principal components factoring, orthogonal or oblique rotation to simple structure, and a summary procedure called WRAP<sup>35</sup> which in Q Analysis indicates the response patterns of the different types of people to the test items.

The program is written in FORTRAN IV for Version 9 of the IBM 7044 or the IBM 360/65 Operating Systems. In addition to the normal input and output units, the program requires one external storage unit on which several phases of the program are maintained, and another unit (FORTRAN logical unit 1) for intermediate storage.

The program assumes these maximums: Number of variables, 109; number of observations, 130; number of factors, 10.<sup>36</sup>

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<sup>33</sup>Dennis Child, The Essentials of Factor Analysis (New York: Holt, Rinehart and Winston, 1970), p. 43.

<sup>34</sup>William Stephenson, The Study of Behavior (Chicago: University of Chicago Press, 1953).

<sup>35</sup>Weighted Rotational Analytic Procedure

<sup>36</sup>N. Van Tubergen, "Q Analysis (QUANAL)" Basic Version 2 (Mass Communications Research Bureau, School of Journalism, University of Iowa, 1976), pp. 1-2. (Xerox.)

In the present study there were seventy-one variables (persons) and forty-eight observations (statements). The data were processed through the QUANAL program on the University of Iowa computer by one of the faculty members of that university. The print-outs were sent to the researcher for interpretation.

The first factor analysis allowed for all ten factors to be extracted. A second analysis was performed using a factor analytic program written in SPSS.

### Influence Questionnaire

Because of incomplete replies, the data from six of the seventy-one questionnaires employed in the rating sheet analysis were not usable. The responses from the remaining sixty-five questionnaires were submitted to analysis by Kendall's coefficient of concordance (W).<sup>37</sup>

Kendall's coefficient expressed the degree of association among the respondents who numbered the sixteen items by rank order. This degree of association demonstrated similarities to an average Pearson  $r$  to an index approximating the difference between the actual and maximum agreement of the data.<sup>38</sup> The degree of agreement among all the respondents also reflected the degree of variance among the sum of ranks. This was true because  $W$  could be considered a function of the degree of variance.<sup>39</sup>

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<sup>37</sup> S. Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Company, 1956), p. 229.

<sup>38</sup> Ibid., p. 230.

<sup>39</sup> Ibid., p. 231.

Ties existed in the collected data. A small number would not have affected the end result, but because the number of ties was large, a correction factor was employed as  $W$  was computed.

At the conclusion of the influence questionnaire were blank spaces for the respondents to add any other people, places, or events that they considered to have influenced their attitude. Since no statistical technique was available to analyze these data, the responses were handled through an inclusive list and a designation of the rank given by the respondent.

## CHAPTER IV

### PRESENTATION OF ANALYZED DATA

#### Rating Sheet

Upon submitting the raw data to QUANAL, ten factors, or types, were distinguished. As seen in table 3, all ten factors had an eigenvalue greater than one.

TABLE 3

#### EIGENVALUES FOR TEN FACTORS EXTRACTED BY QUANAL

Factor	Eigenvalue
1 . . . . .	5.7009
2 . . . . .	5.1769
3 . . . . .	4.6218
4 . . . . .	4.0593
5 . . . . .	3.4883
6 . . . . .	3.2288
7 . . . . .	2.7694
8 . . . . .	2.6419
9 . . . . .	2.2611
10 . . . . .	2.2336

Because the tenth factor had an eigenvalue greater than one, additional significant factors were indicated. The ability to extract more than ten factors was beyond the capability of QUANAL. As a result, a factor analytic program written in SPSS and designed to extract all significant factors was selected for further analysis.

Table 4 indicates that the SPSS factor analysis displayed twenty-five factors with eigenvalues greater than one.



TABLE 4

EIGENVALUES FOR TWENTY-SIX FACTORS  
EXTRACTED BY SPSS FACTOR ANALYSIS

Factor	Eigenvalue	Factor	Eigenvalue
1 . . . . .	5.75402	14 . . . . .	2.01400
2 . . . . .	5.22678	15 . . . . .	1.93845
3 . . . . .	4.68364	16 . . . . .	1.74883
4 . . . . .	4.12090	17 . . . . .	1.67995
5 . . . . .	3.59375	18 . . . . .	1.63651
6 . . . . .	3.37370	19 . . . . .	1.51915
7 . . . . .	2.83910	20 . . . . .	1.44436
8 . . . . .	2.81409	21 . . . . .	1.25927
9 . . . . .	2.54178	22 . . . . .	1.22940
10 . . . . .	2.38806	23 . . . . .	1.13235
11 . . . . .	2.33942	24 . . . . .	1.07602
12 . . . . .	2.20181	25 . . . . .	1.06604
13 . . . . .	2.14716	26 . . . . .	.92300

Twenty-five factors with seventy-one respondents was statistically insignificant. It was noted that in 1968, this same population factored into three identifiable types.<sup>40</sup> Therefore, the researcher concluded that there seemed to have been an influence exerted upon the population causing the individuals to change their attitudes significantly enough within the past seven years so as to negate the validity of the rating sheet for this population.

This conclusion required the researcher to refute the stated hypothesis that members of the AAHPER Council have the same attitudes toward the meaning of the term "outdoor education" in 1968 and 1975. With the results obtained from the factor analysis, the researcher was not able to draw a conclusion about the present meaning of the term "outdoor education."

<sup>40</sup>Horn, "Factor Analysis by Council Members," p. 15.

Influence Questionnaire

Because these data were not able to be significantly factored, it was not possible to either substantiate or refute the state hypothesis that respondents of each attitude type demonstrate agreement among items influencing their 1975 attitude. It was possible for the researcher to test whether all the respondents demonstrated agreement on items influencing their attitude.

The responses from the sixty-five questionnaires were submitted to analysis by Kendall's coefficient of concordance. A coefficient of .202 enabled the researcher to state that the respondents did not significantly agree on influences upon their attitudes.

Further analysis of the influence questionnaire was performed by submitting the data of selected sub-groups to analysis by the Kendall coefficient. The sub-groups were chosen to agree with the categories used in determining whether the respondents were a biased sample of the total population (see table 1). Table 5 indicates that none of the sub-groups tested exhibited any significant agreement of items that influenced the respondents' attitudes.

The researcher also noted that the diversification of influence was supported by the results obtained in the write-in section of the influence questionnaire. From the sixty-five respondents, seventy-three additional influences were mentioned (see appendix E). There was one individual who responded, "My attitude on the philosophy of "outdoor education" has

not been influenced by individuals or events."

TABLE 5

KENDALL COEFFICIENT OF SUB-GROUPS ON  
ITEMS INFLUENCING ATTITUDES TOWARD  
THE TERM OUTDOOR EDUCATION

Sub-groups	Coefficient
All females . . . . .	.190
All males . . . . .	.240
Not college or university faculty . .	.260
Still college or university faculty . .	.209
Not Council members . .	.227
Still Council members . .	.226

The results of the rating sheet and the influence questionnaire supported each other. In the opinion of the researcher, the diversified influences, as seen with the Kendall analysis and the write-in responses, seemed to cause many interpretations of the term "outdoor education." It is also the opinion of the researcher that if, theoretically speaking, every three people held a different philosophy of outdoor education, it would seem that a variety of influences affected the population.

From both the rating sheet and influence questionnaire data, the researcher was not able to distinguish what the population discerned as the meaning of "outdoor education." It seemed as if the term "outdoor education" had lost all meaningful definition, and that this loss of definition could possibly apply to all professional attitudes in the field.

## CHAPTER V

### SUMMARY AND CONCLUSIONS

#### Restatement of Problem

In 1968, B. Ray Horn surveyed selected members of the AAHPER Council in order to determine their attitudes toward the meaning of the term "outdoor education." By duplicating the survey, the researcher proposed to determine the present attitudes of the Council members. If a difference was revealed, between the 1968 and 1975 attitudes, it was within the scope of the problem to discuss the discrepancies.

Beyond a duplication of the 1968 study, the researcher proposed to investigate the influences of people, places and events on the 1975 attitudes.

#### Summary of Procedures

The procedure entailed three phases: (1) procuring permission for the use of the rating sheet and construction of the influence questionnaire, (2) questionnaire administration, and (3) data analysis.

Written permission was obtained for use of the rating sheet by contacting B. Ray Horn at his current address at the University of Michigan. The influence questionnaire was designed by the researcher with consultation from the George Williams College faculty members of the Department of Leisure

and Environmental Resources Administration. Sixteen items were listed which, in the past seven years, may have influenced the attitude of a respondent.

In May 1975, after locating current addresses of the population, a rating sheet, an influence questionnaire, a stamped return envelope, and a letter were sent to each individual. Three weeks later, a follow-up mailing was sent to those individuals who had not yet replied. A total reply of 71 percent was received.

The data from the rating sheet was analyzed by use of a specific factor analytic program called QUANAL. The number of factors extracted indicated the number of attitudinal types displayed by the population. The results from QUANAL indicated that more than ten factors, the limit of the program, were present. A second analysis of the raw data was performed by a factor analytic program written in SPSS.

The influence questionnaire data were investigated by use of Kendall's coefficient of concordance. A coefficient above .800 would have indicated significant agreement, among the individuals tested, as to relative strength of various influences upon their attitude.

#### Main Findings and Conclusions

The use of the rating sheet did not result in a current definition of the term "outdoor education." Theoretically, seventy-one people in twenty-five factors equated to an average of 2.84 people in each factor. Less than three people seem to have concurred upon their interpretation of the term "outdoor



education." In 1968, this same population factored into three groups about equal in number.<sup>41</sup> As a result, it was concluded that the population did not hold the same attitudes toward the meaning of the term "outdoor education." The population had changed significantly enough, within the past seven years, so as to negate the validity of the rating sheet for this population.

The results of the rating sheet and the influence questionnaire supported each other. In the opinion of the researcher, the diversified influences, as seen with the Kendall analysis and the write-in responses, seemed to cause many interpretations of the term "outdoor education." It is also the opinion of the researcher that if, theoretically speaking, every three people held a different philosophy of outdoor education, it would seem that a variety of influences affected the population.

From both the rating sheet and influence questionnaire data, the researcher was not able to distinguish what the population discerned as the meaning of "outdoor education." It seemed as if the term "outdoor education" had lost all meaningful definition, and that this loss of definition could possibly apply to all professional attitudes in the field.

#### Suggestions for Further Research

The present study was performed with a specific population. Since both the rating sheet and the influence

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<sup>41</sup>Horn, "Factor Analysis by Council Members," p. 15.

questionnaire were designed for any individual who is familiar with "outdoor education," other populations may be tested. Suggested populations are the present members of the AAHPER Council and directors and/or administrators of "outdoor education" programs. It would be of interest to professionals in the field, if other populations are as diversified in their attitudes.

An immediate follow-up study, using the data gathered for this study, could be designed to test the cause for the wide diversification of attitudes or influences.

The present research was the second half of a longitudinal study begun in 1968 by B. Ray Horn. In another seven or eight years the study could be replicated. It would be of interest to see if the population diversifies more or whether they begin to re-coalesce, once again establishing the validity of the questionnaire for this population.

Appendix A, Rating Sheet, removed by the author as it is copyrighted. For further information, contact Marcia Buchel, Director of Outdoor Education, George Williams College, Williams Bay, Wisconsin 53191 (414-245-5531)

#### APPENDIX B

#### "Influence Questionnaire"

Below is a list of sixteen items which, in the past seven years, may have influenced your attitude toward the meaning of the term "outdoor education." Please read the entire list and then place the fifteen items in rank order with one (1) representing the factor with the greatest influence and fifteen (15) indicating the factor with the least amount of influence.

- \_\_\_ The concern of the general public about the environment
- \_\_\_ Availability of funding for programs
- \_\_\_ New environmental legislation
- \_\_\_ Programs of local school districts
- \_\_\_ Changing philosophy of well known people in the field of outdoor education
- \_\_\_ Professional opportunities you have had since 1968
- \_\_\_ Additional formal education you have received
- \_\_\_ Workshops, seminars and/or meetings attended
- \_\_\_ 4th National Outdoor Education Convention
- \_\_\_ Personal research in the past seven years
- \_\_\_ Attitudes of your immediate family
- \_\_\_ Mass media (T. V., radio, publications, posters, bumper stickers, etc.)
- \_\_\_ Statements and attitudes of environmental organizations
- \_\_\_ Interpreters at places you have visited (National or State parks, museums, nature centers, etc.)
- \_\_\_ Programs of existing outdoor education centers

There may have been other people, places or events which have influenced your attitude toward the meaning of the term "outdoor education." Please list these items and give each a comparable rank to an item of equal influence from the above list.

___	_____
___	_____
___	_____
___	_____

APPENDIX C  
LETTERS OF TRANSMITTAL



# George Williams College *Lake Geneva Campus*

WILLIAMS BAY, WISCONSIN 53191 \* A/C 414 245-5531

May 12, 1975

In 1968 you were involved in a study through Southern Illinois University to determine similarities and differences in the attitudes and outlook toward the meaning of the term "outdoor education." The present inquiry is a follow-up to investigate whether, as a group, these attitudes have altered.

You were carefully selected to be a member of the original jury because it was felt that your personal view was significant. A 96% response showed that you also saw the value of the inquiry. Because "outdoor education" has never had just one accepted definition, the information of the present study should be of importance to professionals in the field.

The enclosed questionnaire can be completed in about 20 minutes. It is most important in this type of study to obtain completed responses from each jury member. Your cooperation is greatly appreciated.

In order that your opinion be included, the completed questionnaire should be mailed by Tuesday, May 27. A self-addressed envelope is enclosed for your convenience.

Sincerely,

Marcia Backiel

# George Williams College *Lake Geneva Campus*

WILLIAMS BAY, WISCONSIN 53191 \* A/C 414 245-5531

June 3, 1975

Enclosed is a copy of the letter sent to you on May 12, 1975. The questionnaire returns have been coming in, but quite a few are still missing. If you have already mailed your copy please disregard this notice, but you may have misplaced the inquiry. For your convenience, another copy of the questionnaire is enclosed.

If you wish to receive a summary abstract of the final results, please indicate in the place provided in the comment section of the questionnaire.

Thank you for your cooperation.

Sincerely,

Marcia Backiel

APPENDIX D  
POPULATION MEMBERS

## MEMBERS OF THE RESEARCH POPULATION

Ellen Maxine Abshire	Illinois State University, Normal, Illinois
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Alice Clawson	University of Wisconsin, Stevens Point, Wisconsin
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George F. Cooper, Jr.	Emory University Field House, Atlanta, Georgia
Russell K. Cutler	Chico State College, Chico, California
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H. Marie Garrity

Walter Gilliard

Oswald Goering

Bailey Gore

Ernest F. Goor

Jan Greene

Luell Guthrie

Sidney W. Hale

Donald Hammerman

William Hammerman

Arnold O. Haugen

Larry Heeb

Joyce Hillard

Helen M. Hocker

Don Holst

John T. Huntington

Anna Ley Ingraham

Barbara E. Jensen

Ruth L. Jewell

Orville E. Jones

J. Bertram Kessel

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Keith V. King

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John H. Kirk

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University of Kansas, Lawrence,

Kansas

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Louisiana

Washburn University, Topeka, Kansas

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Nebraska

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Hampshire

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Beaumont, Texas

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Center, Florida

APPENDIX E

WRITE-IN RESPONSES TO THE  
INFLUENCE QUESTIONNAIRE

The numbers(s) behind each influence indicates the rank order given the influence by the respondent(s).

A. Responses mentioned eleven times

1. Julian Smith, four 1's, three 2's, 4, 6, two no rank

B. Responses mentioned three times

1. L. B. Sharp, 1, 2, no rank
2. Donald Hammerman, 5, 6, no rank

C. Responses mentioned two times

1. Discussions with colleagues, two 3's
2. National outdoor education workshop-Higgins Lake, two 2's
3. Reynold Carlson, 1, no rank
4. Dr. William Vinal, 2, no rank

D. Responses listed only once

1. People

- a) Edward J. Ambry, 3
- b) Matthew Brennan, 4
- c) Ronald Greenwold--U.S. Forest Service, 5-7
- d) Hugh Mastem, 4
- e) Fred Mould, 2
- f) Elmer Palmer, no rank
- g) John Paulk--T.V.A., 3
- h) Betty van der Smissen, 1

2. Specific publications

- a) Curriculum and learning theory books, 4
- b) Environmental magazines, no rank
- c) Hammerman books, 3
- d) Journal of Health, Physical Education and Recreation, 2
- e) Journal of Outdoor Education, 2
- f) Literature other than mass media, 3
- g) Outdoor Education Newsletter, 1
- h) Personal publication, 5
- i) Revisions of books in outdoor education, 1
- j) Writings of Sharp, Smith, Donaldson, Partridge, Vinal et al., 1

3. Events, places and miscellaneous influences

- a) Adventure colloquium at Lorado Taft Field Campus, 2
- b) AAHPER National Convention, 2
- c) Camping experiences, 1
- d) Childhood on a farm, 1
- e) Community emphasis of school curriculum i.e. "school without walls", 1
- f) Conference's of Julian Smith, 2
- g) Designing private property to teach identification of natural resources to classes, 2
- h) Desire to fish and hunt freely, 1
- i) Direct contact with students in class, 3
- j) "Energy crisis", 3
- k) Forest service workshops, 2
- l) Initiating an angling class in college, 1
- m) Involvement of students, 2
- n) Joining sportsmens clubs, 1
- o) Lack of knowledge by populus, 3
- p) Learning by doing, 3
- q) My own existential sense, 1
- r) National outdoor education school, 4
- s) New dimension to teaching, 1
- t) NRA, 1
- u) Observing the establishment of a camp for juvenile delinquents, not ranked
- v) Organizing the Northwest Outdoor Education Center, 3
- w) Outdoor Education leaders in 50's and 60's, 1
- x) Outdoor pursuits, 2
- y) Outward bound, 2
- z) Parents, 1
- aa) Personal biases, 1
- bb) Personal acquaintance with leaders, not ranked
- cc) Personal experience in outdoor education programs in 50's and 60's, 4
- dd) Personal research and reading in the 50's and 60's, 3
- ee) Planning special events in a natural setting, 5
- ff) Prairie workshop attended and directed, 1
- gg) Professional colleagues attitudes and influence, 4



- hh) Professional people in related areas - soils, water teaching (but not my colleagues), 5
- ii) Purchasing property with natural resources available, 4
- jj) Recreational opportunities had since 1968, 2
- kk) Students in my classes, no rank
- ll) Survival, 1
- mm) Teaching a course in outdoor recreation education, 1
- nn) Teaching graduate classes in outdoor education at Lorado Taft Field Campus, 1
- oo) Travel worldwide where emphasis has been directed toward progress in outdoor education or notable lack of outdoor education, 4
- pp) Urban sprawl, 2
- qq) Visiting outdoor education centers in sixteen European countries, 2
- rr) Wilderness Trips, 1
- ss) Working with others on national committees, 1
- tt) Working on land areas - nature preserves, 1
- uu) Workshops, seminars, etc. in the 50's, 2
- vv) Workshops, seminars, 2

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